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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,511

02/18/2004

Jacqueline C. Chen

PD-02-1282

2962

22462

7590

10/19/2006

GATES & COOPER LLP
HOWARD HUGHES CENTER
6701 CENTER DRIVE WEST, SUITE 1050
LOS ANGELES, CA 90045

EXAMINER

NGUYEN, LEE

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,511

Applicant(s)

CHEN, JACQUELINE C.

Examiner

LEE NGUYEN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 14-19, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 5-13, 20-28 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 14-19, 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuoka et al. (US 2001/0049295).

Regarding claims 1/16 Matsuoka teaches a method/apparatus of redistributing power radiated by an antenna comprised of a plurality of antenna elements 10-1 –10-N (fig. 5), the method/apparatus comprising: (a) performing an antenna directivity estimator function to screen out inappropriate antenna directivity profiles from a plurality of antenna directivity profiles, thereby determining one or more remaining, appropriate antenna directivity profiles (associated antenna selected, para [0091]); and (b) performing an optimizer function on the remaining, appropriate antenna element directivities to determine a phase distribution for the antenna elements based on a desired power distribution for the antenna (determining weight vectors to direct a maximum gain direction with optimal transmission beam pattern, see para [0093]).

Regarding claims 2/17, Matsuoka also teaches that the inappropriate antenna directivity profiles comprise impossible antenna directivity profiles (antennas with no gain, see

Art Unit: 2618

para [0091]).

Regarding claims 3/18, Matsuoka also teaches that the antenna directivity estimator function is performed to screen out impossible antenna directivity profiles (excluded, see para [0091]).

Regarding claims 4/19, Matsuoka also teaches that the antenna directivity estimator function smoothes the antenna directivity profiles, while a total power for the antenna is conserved (see maximum gain in [0093]).

Regarding claims 14/29, Matsuoka also teaches that the optimizer function is performed within a specified time limit (at the time of transmission, see para [0090]).

Regarding claims 15/30, Matsuoka also teaches determining phases of the antenna elements based on the phase distribution; and redistributing power to the antenna elements based on the determined phases (determining weight vectors to direct a maximum gain direction with optimal transmission beam pattern, see para [0093]).

Allowable Subject Matter

Claims 5-13, 20-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 5/20, Matsuoka fails to teach or suggest that each of the antenna directivity profiles is represented as a set of Point Set Array (PSA) points over a coverage area, and each of the PSA points is assigned a desired directivity.


Regarding claims 13/28, the Matsuoka fails to teach readjusting the antenna directivities when the antenna directivity estimator function does not generate a positively adjusted margin.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone number is 571-272-7854. The examiner can normally be reached on FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANDERSON D. MATTHEW can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


LEE NGUYEN
PRIMARY EXAMINER